

OPERATORS VIEW ON VLTA CONCEPT AND INTRODUCTION OF NEW A/C, RULES AND RESEARCH.

Introduction

Ladies and gentlemen, first of all I would like to introduce myself. I am Peter van Dijk, manager cabin Engineering within KLM, Royal Dutch Airlines. I have been working for KLM 21 years in several functions and the last 5 ½ years as Manager Cabin Engineering. As a chairman of the AEA-Cabin Safety Working Group I participate in the JAA Cabin Safety Study Group. For those who are not familiar with the European situation: AEA stands for Association of European Airlines, similar to the ATA in the USA.

Very Large Transport Aircraft

About 2 weeks ago I was asked to share with you our ideas about the Very Large Transport Aircraft concept. Also based on the information gathered during the VLTA conference held in, and I dare to pronounce the name of the city, Noordwijkerhout in the Netherlands some weeks ago, I have to come to the conclusion that a VLTA is nothing special except for the amount of passengers that are being carried on board. With this statement I don't want to frustrate the people and organizations that organized the conference but just give our view.

To my opinion one of the reasons why a VLTA is nothing special is that it is another logical step in the development of the transport of persons or freight by air. A few previous steps may illustrate this. After WW II at first the happy few could afford themselves the luxury of flying (old transport A/C used during WW II made fit for passenger transport). This was followed by the introduction of the jet-powered aircraft (meaning faster travelling). After that the widebody aircraft were introduced (start of mass transport by air), followed by technical innovations on these products (fly by wire e.g.) and now we are facing the VLTA concept. All phases had its specific problems that were resolved during the operation with the aircraft based on the experience gathered operating them.

Observing the issues that were discussed, during the VLTA conference, with respect to occupant safety, e.g. emergency evacuation and turbulence, I came to the conclusion that nearly all of these issues are also applicable to the present generation aircraft. The only issue that came up specific to VLTA was how to manage the amount of passengers in several circumstances, during boarding, disembarkment, during flight, or in a bad case during emergency evacuation and subsequently on the ground after the evacuation.

Nevertheless VLTA can be a new concept, depending on the design, but trying to work pro-active on possible problems or problem areas with a broad variety of involved and interested parties, is an activity that should be done during the development of this concept and to my feeling of every new aircraft.

The only negative effect in this case, during the Noorwijkerhout conference, was that some "interested" parties used the conference to state political issues that had nothing to do with the subject: VLTA.

Operating a VLTA might introduce new procedures for the cabin crews. These effects should be very well discussed during development of the general design and cabin layouts. The effect of procedures which are too different from present procedures might reduce the number of aircraft type's crews are licensed to fly. Which is not desirable.

In general the effects of a VLTA on rules and procedures depend for a great deal on the design, e.g. full double deck, blended wing etc. Only when there is a basic design you really can check how the concept complies with the present rules and what has to be done to let it comply or to develop new or to amend existing rules.

Of course a VLTA has great possibilities with regard to passenger comfort and entertainment depending on the ideas of the operators e.g., fitness area's, conference areas, sleeping rooms and more. On the other hand seeing the present process of rulemaking the implementation of some of the ideas might be difficult.

Introduction of new aircraft

When introducing new aircraft with new concepts it often happens that the manufacturers are ahead of the rules and during certification new rules still have to be established. Another effect might be that manufacturers do not anticipate on rules that are in process to be made. This indicates that before introducing new aircraft not only discussions should take place on the technology to be used but also on the rulemaking in progress to anticipate on the issues to come and thus avoiding possible high costs just after introduction. One example is the requirement of 30" aperture between monuments in the cabin. This proposed rule was initiated by the JAA-Cabin Safety Study Group in Europe, but the majority of the participants at the workshops with the European manufacturer of a possible VLTA were not aware of this.

Implementation of such a requirement after introduction is extremely costly, not only due to the retrofit itself, but also due to the loss of revenue with regard to the configuration the operator thought he bought.

Another example of avoidable effort and possible cost is the effect of knowing the rules valid in the potential markets. The discussion we, the airlines in Europe, and a manufacturer had with determining the maximum number of passengers that is allowed in an aircraft type with 4 Type III exits was an extensive one. While when a discussion would have been held by the manufacturer with the European authorities in an earlier stage, the airlines would not have been bothered with the discussion mentioned and had not to retrofit the early delivered airplanes.

Research

One of my conclusions of participating in the rule making process over the last 3 years is that simple solutions are hardly available for problems with safety we encounter today. And, as the solutions become more complex, they mostly are very costly. In order to get a good cost/benefit balance with respect to safety, the solutions that are available for real problems, there are also "created" problems, should be thought over very carefully. A good help can be RESEARCH. In the JAA-CSSG we feel an increasing need for research. Therefore we introduced a working group that should coordinate all the need for research and prioritize them. Duplication of research should be avoided. We have the feeling that there is sometimes competition between research institutes with regard to the issues where research is needed or requested. Due to the high costs involved, we cannot afford ourselves duplication of research. The effect of this will be that whenever research has been done, the results should be recognized by all parties. This implies that before research will be done all interested parties should be aware of the research subject and agree upon the methods used and its goals. One area where, at the moment, a good research program could increase the level of safety is the full procedure of evacuation. Until now the way we developed and introduced new rules was by the single topic approach. In many cases this is the right approach to keep the problem and the possible solutions clear and identifiable. In the case of evacuation I think we should come to an integral research on the full chain of events during evacuation as to our opinion all the events might influence each other and trying to improve a situation in one area might create a problem in an other area.

I would like to finish with a few conclusions.

O Active participation of operators and authorities in the initial design phase, not only with respect to the cabin layouts or technical innovations, but surely with respect to the interpretation of existing rules or new rulemaking, is essential for a smooth introduction of a new aircraft type or a totally new concept. This may also overcome the "rulemaking by accident" which principle we have to use too often.

O Research should be coordinated between all the institutes and accepted in the whole aeronautical world if the research complies with the defined starting points. Hearing what already has been said I think this going the right way.

With before mentioned conclusions I would like to finish my short introduction, thank you for your attention and I hope you all will have a good and fruitful conference.